

MicroStation English Design Planes

In the California Coordinate System (CCS), there are 6 zones (which does not change for English or Metric units). Zone 1 covers the northern most part of California, while Zone 6 covers the southern most part of California.

Before Caltrans began using Metric units for projects, it took 43 English design planes to cover the 6 CCS zones. When Caltrans began using Metric units, it took only 9 Metric design planes to cover the 6 CCS zones. In the effort to convert Caltrans back to delivering projects with English units, it was discovered that the original 43 English design planes did not cover all of California. There were gaps between design planes, some as great as 4 miles apart.

To correct this over-site, 5 new MicroStation English design planes were created while 12 of the original English design planes were revised. To identify the 5 added design planes, an "A" was appended to the design plane number nearest the location of the newly created design plane. The name of the new design plane is a county that is contained within that design plane which was not previously utilized as a name of a design plane. To identify the 12 English design planes that were revised, an "R" was appended to the design plane number but with no change to the name of the design plane.

	<u>Global Origin</u>		<u>Global Center</u>		NAME
	X	Y	X	Y	
22A	5782251.6352	1848251.6352	5997000	2063000	San Benito
24A	6835251.6352	2032251.6352	7050000	2247000	Inyo NE
30A	6469251.6352	1953251.6352	6684000	2168000	Toulumne
38A	6121251.6352	1802251.6352	6336000	2017000	Trinity
40A	6696251.6352	1885251.6352	6911000	2100000	Lassen
7R	6261251.6352	1712251.6352	6476000	1927000	<i>Los Angeles</i>
12R	7303251.6352	1838251.6352	7518000	2053000	<i>San Bern SE</i>
16R	6660251.6352	2090251.6352	6875000	2305000	<i>San Bern NW</i>
18R	5677251.6352	1801251.6352	5892000	2016000	<i>Monterey</i>
22R	7131251.6352	1807251.6352	7346000	2022000	<i>Inyo SE</i>
24R	6620251.6352	2032251.6352	6835000	2247000	<i>Inyo N.</i>
28R	6907251.6352	1939251.6352	7122000	2154000	<i>Mono S.</i>
29R	5830251.6352	1894251.6352	6045000	2109000	<i>SF Bay Area</i>
32R	6065251.6352	1767251.6352	6280000	1982000	<i>Sonoma</i>
38R	5888251.6352	1802251.6352	6103000	2017000	<i>Humboldt</i>
40R	6696251.6352	1736251.6352	6911000	1951000	<i>Plumas</i>
43R	6696251.6352	2207251.6352	6911000	2422000	<i>Modoc</i>

Changing the Global Origin of an old English design file **To the revised Global Origin**

If old English geographic design files exist (in particular base maps) and are going to be utilized for a new English project, then the contents of the design file may need to be moved if the global origin had been changed. This would only occur in 12 of the original 43 English design planes, which are design planes 7, 12, 16, 18, 22, 24, 28, 29, 32, 38, 40 and 43. With the release of the new English design planes, the above listed 12 design planes have an “R” appended to the design plane number. The chart below identifies the new global origin for each of the revised English design planes and the change (delta) in X & Y from the original English design plane.

To move the contents of an old geographic English design file to the exact coordinates needed within a revised English design plane, follow the next few steps.

1. First make a backup of the old design file.
2. Open the old design file in MicroStation and use Project Setup to select the appropriate revised design plane. This will set the file with the revised global origin.
3. Make sure all levels are turned on and place a fence around all of the design elements.
4. To finish, move all of the fenced design elements by the given delta values (see below) using the **dx=<X-value>,<Y-value>** key-in within the key-in browser.

The above steps only apply to an old English design file that contains coordinate values of an English design plane. If any English design file contains non-geographic coordinate values, additional steps will be needed. After Step 3, you will need to identify a specific point in the English design file, which has a new geographic coordinate value (either an XY value or NE value). During Step 4, snap to that specific point to move all of the fenced design elements then use either key-in **xy=<X-value>,<Y-value>** or **ne=<N-value>,<E-value>** within the key-in browser to complete the move.

	<u>Global Origin</u>		<u>Delta - Old to New</u>	
	X	Y	ΔX	ΔY
7R	6261251.6352	1712251.6352	0	- 4000
12R	7303251.6352	1838251.6352	+ 10000	0
16R	6660251.6352	2090251.6352	+ 30000	- 35000
18R	5677251.6352	1801251.6352	0	- 20000
22R	7131251.6352	1807251.6352	+ 24000	-177000
24R	6620251.6352	2032251.6352	- 38000	- 22000
28R	6907251.6352	1939251.6352	+ 4000	0
29R	5830251.6352	1894251.6352	- 16000	+ 13000
32R	6065251.6352	1767251.6352	- 11000	+ 9000
38R	5888251.6352	1802251.6352	- 10000	0
40R	6696251.6352	1736251.6352	0	- 13000
43R	6696251.6352	2207251.6352	+ 14000	+ 24000